

Revisiting the typification of *Ranunculus cantoniensis* (Ranunculaceae) and some of its synonyms

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Abstract: The perplexities of nomenclature warrant the addressal of the typification of *Ranunculus cantoniensis* and some of its synonyms include *R. fibrosus* and *R. napaulensis*. The present paper designates the neotype for *R. cantoniensis* and lectotype for *R. fibrosus*. The holotype of *R. napaulensis* is found in G instead of K, and we also discuss the correction of orthographic errors of this name that have crept into relevant literature.

Keywords: China, Lectotype, Neotype, Orthographic error, Replacement name

Introduction

Ranunculus cantoniensis DC. is a perennial herb distributed from Siberia to the temperate east Asia and Peninsula Malaysia (POWO, 2025). The name *R. cantoniensis* has several synonyms and the taxon shows continuous variations in leaf and achene morphology (Sarkar *et al.*, 2024; WFO, 2025). The Portuguese Jesuit missionary and naturalist João de Loureiro (1717–1791) travelled to Đàng Trong, Vietnam (known to the Europeans as Cochinchina) in 1742 (Li, 1998). During his stay of about 40 years in Vietnam, Loureiro authored the book, entitled ‘Flora Cochinchinensis’ which was published in 1790 in two volumes (Harris, 1999). Out of the 947 names published in the book, he established a new genus *Hecatonia* Lour. within the family Ranunculaceae having two species, namely, *Hecatonia palustris* Lour. and *Hecatonia pilosa* Lour.

The genus *Hecatonia* is now treated as a synonym of *Ranunculus* L. and subsequently the names *H. palustris* and *H. pilosa* are treated as synonyms of *Ranunculus sceleratus* L. var. *sceleratus* and *R. cantoniensis*, respectively (Merrill, 1935; POWO 2025).

The swiss botanist Augustin Pyramus de Candolle (1778 – 1841) in 1818, published the first volume of his book ‘Regni vegetabilis systema naturale’ where he concurred with Loureiro’s treatment of *Hecatonia* and its two proposed species (Candolle, 1818). However Candolle in his subsequent publication of 1824, in the first volume of ‘Prodromus systematis naturalis regni vegetabilis’ changed his opinion and proposed the inclusion of the genus *Hecatonia* and the two species in the genus *Ranunculus* and he published them accordingly (Candolle, 1824a). *Hecatonia palustris* thus became the synonym for *R. sceleratus* while *H. pilosa* became a synonym of *R. cantoniensis*.

Candolle could not utilise the specific epithet ‘*pilosa*’ to describe *H. pilosa* under the genus *Ranunculus* as it was already in use as *Ranunculus pilosus* Humb. Bonpl. & Kunth *ex* DC., validly published by himself in Regni vegetabilis systema naturale (Candolle, 1818). To avoid the creation of a later homonym, Candolle (1824a) gave a replacement name *R. cantoniensis*, while *H. pilosa* became its replaced synonym. Thus, the type for *R. cantoniensis* is the same as the type for *H. Pilosa* (Art. 7.4 of the ICN, Turland *et al.*, 2025).

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Nomenclature is essential in the clarification of a substantial portion of ambiguities among taxa that may arise during a study. In the present communication we have neotypified *R. cantoniensis*. The typification of some of its synonyms viz., *R. fibrosus* Wall. ex Hook.f. & Thomson and *R. napaulensis* DC. have also been revisited.

Materials and Methods

Relevant literature was studied (Srivastava, 2010) together with the protologue of the names concerned. Various online databases have also been searched to access the specimens required (CJBG, 2025; GBIF, 2025; HUH, 2025; JSTOR, 2025; LINN, 2025; MNHN, 2025; National Plant Specimen Resource Library Online Sharing Platform, 2025; NHML, 2025; NYBG, 2025; RBG, 2025; RBGE, 2025; Tropicos, 2025). These include the online databases of the following herbaria BM, GH, G, K, LINN, P, PE (acronyms as per Thiers, 2025 updated continuously).

Typification

Ranunculus cantoniensis DC., Prodr. 1: 43. 1824. *Hecatonia pilosa* Lour., Fl. Cochinch. 1: 303 1790. *Neotype* (designated here): CHINA, **Guangdong**, 25.04.1994, Liao Liang & Xu Lingling 402515 (PE [PE00429196 digital image!]). Image available at: <https://www.cvh.ac.cn/spms/detail.php?id=f3fb55a9>

Note: Srivastava (2010) cited the type information of *R. cantoniensis* as 'Described from China (G-DC.)' but missed citing *H. pilosa* as the replaced synonym. According to Stafleu and Cowan (1981) Loureiro's Herbarium and Types are housed at BM, and a small set is also at P and LINN. Candolle (1880) mentions that Loureiro's collections in Lisbon, Portugal have been destroyed. We could not locate any of the original material of *H. pilosa* studied by Loureiro (1790) thus we infer that Srivastava (2010) must have cited the type at G-DC in assumption.

In an attempt to stay true to Loureiro's description we opted to consider specimens

that were collected from the type locality. Now, Loureiro (1790) describes the type locality to be 'Cantonem Sinarum' or Canton, China. The word 'Canton' comes from the Portuguese word 'Cantão', which is a transliteration of the name 'Guangdong' (Anonymous 1910). Guangdong is a modern-day province, of which the capital is Guangzhou (Anonymous, 1797). The former romanization 'Canton' can either refer to the province Guangdong (alternately romanised as 'Kwangtung') or the city Guangzhou (Mayers *et al.*, 1867). Neither Candolle (1824b) nor Loureiro (1790) have specified anything, thus making it further unclear. We accessed the National Plant Specimen Resource Library Online Sharing Platform (2025) which allows entry into the Chinese Virtual Herbarium and filtered out specimens from the province of Guangdong i.e. the type locality, and selected (PE00429196) as the neotype from among them.

Ranunculus fibrosus Wall. ex Hook.f. & Thomson in Hook.f. & Thomson, Fl. Ind. 1:37. 1855. *Lectotype* (designated here): NEPAL [Nipaul], 1821, Wallich 4706(G[G00085132digitalimage!]). Image available at: <https://www.ville-ge.ch/musinfo/bd/cjb/chg/adetail.php?id=108721&base=img&lang=en>

Note: Srivastava (2010) included catalogue no. 4706, collected by Wallich, from Nepal in 1821, as the type specimen for *R. fibrosus* Wall. Along with *R. fibrosus*, *R. 'nepalensis'* DC. Was also considered to be a synonym for *R. cantoniensis* and it was stated that the holotype for *R. 'nepalensis'* is housed at K, but the specimen found at K, having Wall. Cat. num. list no. 4706 (K001039735) is a specimen of *R. fibrosus* Wall. ex Hook.f. & Thomson. This specimen is also referred to in the online version of The Wallich Catalogue (Anonymous, 2025) as the type specimen associated with the name *Ranunculus fibrosus* Wall. We learn that in the Wallichian catalogue (Wallich, 1828), the number 4706 is an entry for *R. fibrosus* Wallich which was a *nom. nud.*, later validly published in the first volume of Flora Indica (Hooker & Thomson, 1855). Hooker and

Thomson (1855) in the introductory essay of said publication mention utilizing the materials of the Wallichian Herbarium in preparing Flora Indica. In the protologue for *R. fibrosus* Wall. ex Hook.f. & Thomson., Hooker and Thomson (1855) do not mention one particular specimen but instead write “Wall. Cat. 4706!”. Now, G houses a specimen of *R. fibrosus* which is labelled as the ‘ISOTYPUS’ on the ‘Description’ tab of the website, and catalogued with the barcode no. G00085132. Now, if there were multiple specimens with the same number 4706 on them then Hooker and Thomson’s indication of “Wall. Cat. 4706!” would result in there being a syntype. Moreover, the isotype mention implies the existence of a holotype which would be true if there was a single specimen. If we take a look at the herbarium labels of G00085132 and K001039735, we find that the handwriting on the top left of K001039735 is matching with Dr. Wallich’s handwriting from his catalogue whereas the handwriting on G00085132 is quite different from that. Also, the Cat. no. 4706 has been added in writing, later on onto the label. So K001039735 may possibly be the holotype. As observed on the determinavit slip on the top of the sheet Dr. Eichler had come to the same conclusion, but this cannot be determined for certain. Since the Wallich Catalogue Online (Anonymous, 2025) mentions the specimen associated with *R. fibrosus* Wall. to be K001039735. Therefore, we designate K001039735 as the lectotype for *R. fibrosus* Wall. ex Hook.f. & Thomson in accordance with Art. 9.12 of the ICN (Turland *et al.*, 2025) which states that “In lectotype designation, a part of the holotype (if it is taxonomically mixed) that is not in conflict with the validating description or diagnosis must be chosen if such exists, or otherwise an isotype if such exists, or otherwise a syntype or isosyntype if such exists, or otherwise a paratype if such exists.”

Ranunculus napaulensis DC., Prodr. 1: 39. 1824. *Holotype*: NEPAL [Nepalia], 1819; *Wallich s.n.* (G [GE00130010digital image!]). Image available at <https://www.ville-ge.ch/musinfo/bd/cjb/chg/adetail.php?id=145627&base=img&lang=en>

Note: *Ranunculus napaulensis* is considered to be one of the synonyms of *R. cantoniensis*. Candolle in the protologue of *R. napaulensis* (1790) cited Napaulia, Wallich. (*v.s.*). In the online herbarium catalogue of BM, a specimen with the catalogue no. BM000521595 is marked as the holotype of *R. cantoniensis*. Firstly, the said specimen was separated from *Ranunculus diffusus* DC. as the two different specimens were mistakenly mounted together. Secondly, a determinavit slip dated 08 October 1993 tells us that M. Tamura determined the specimen to be *R. napaulensis*. Thirdly, we find that K.K. Shrestha attached a determinavit slip dated 09.07.1998 stating it to be collection of *R. cantoniensis* and simultaneously raising a question regarding the status of that specimen as the holotype of *R. napaulensis*. Now, GBIF (2025) correctly mentions that the holotype for *R. napaulensis* housed at G (G00130010).

We observed a continued series of orthographic errors with respect to the specific epithet of this taxon. Apart from *R. napaulensis*, there also exists a *R. ‘nepalensis’* Sprengel (IPNI, 2025). IPNI (2025) and POWO (2025) confer the authorship of the name *R. ‘nepalensis’* to Sprengel but, however, in the text (Sprengel, 1825) the author of the name *R. ‘nepalensis’* is mentioned to be ‘Cand.’, that is Candolle. We suspect this is the origin of the orthographic errors that have followed with respect to this name and, therefore, as per the protologue and Art. 61.4 of the ICN (Turland *et al.*, 2025) *R. napaulensis* remains the correct name.

Ranunculus pensylvanicus L.f. was a name published in Supplementum plantarum in 1782. The misapplication of the said name almost a century later in The Flora of British India (Hooker & Thomson, 1875) only demonstrates the difficulty in the delimitation of the investigated taxa. Since *R. chinensis* Bunge. is cited as a synonym for the aforementioned misapplication, the identity of the taxon could actually be recovered. Further, the authors mention that the taxon was “very variable in the shape of the head of achenes” and

a survey of a large suite of specimens convinced them of the specific identity of all the forms. The generation of multiple binomial names by authors due to overwhelming variations, both between taxa and within the taxon, is a problem intimately associated with the taxonomic process. Merrill (1935) had also commented on the difficulty encountered in understanding Loureiro's names. He attempted to alleviate this problem in case of *R. cantoniensis* by synonymizing names and defining the identity of each taxon to some degree.

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